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## EYE EXAMINATION, TREATMENT AND OPERATION

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### NURSES' PREPARATION FOR SQUINT OR STRABISMUS OPERATION

THE operation for the correction of strabismus or cross-eye consists in either cutting the tendon of the strong muscle pulling the eye in or out, or in advancing or readjusting the position of the weaker muscle sufficient to hold the eye straight. Quite often both operations are combined. The operation is generally performed under local 4 per cent. cocaine anæsthesia. The patient should be placed flat on his back in a good light with a firm hard pillow under his head. The operating bed or table should be as close to a window as convenient in order to obtain good light. A north light is usually preferable. The eyes in eye operations are left open. The preparation of the eye is similar to that described under Eye Operations in General, *i.e.*, skin about the eye cleansed, eye flushed with a warm boric acid solution and face and forehead covered with a square piece of gauze with a hole cut in the centre so that only the eye to be operated upon will be exposed. A small table covered with sterile towels should be at hand upon which to place the instruments. Cocaine 4 per cent., adrenalin chloride, atropine sulphate 1 per cent., bowl of warm sterile salt solution and eye droppers will all be required. The patient's shoulders should be covered with a half-sheet and one or two sterile towels also arranged about the head. The operator and nurse should preferably wear gowns and caps, and the hands and finger-nails are to be thoroughly scrubbed with soap and water and a nail brush. The instruments ordinarily used are as follows: Eye speculum, conjunctival fixation forceps, probe-pointed strabismus scissors, advancement forceps, tendon tucker, two or three strabismus hooks, needle holder, curved eye needles, strong black silk, one or two slender hemostats and such other special instruments as may be selected by the operator. Following the operation the eye is cleansed and treated by the physician, a bit of bichloride ointment (1-3000) placed between the lids and the eye bandaged for two or three days if necessary. The deep sutures holding the muscle advanced are left in place for a number of days.

### OPERATIONS ON THE IRIS

Excision of a small portion of the iris called *iridectomy* is usually performed during extraction of cataract, for the relief of intra-ocular tension in acute glaucoma and for optical purposes.

*Preparation for Operations on Iris.*—Iridectomy is performed as a rule under local 4 per cent. cocaine anæsthesia and with the patient in a recumbent position. The instruments usually required are an *eye speculum* to separate the lids, *fixation forceps* to steady the globe, *keratome* or knife to cut through the cornea, delicate *curved iris forceps* for grasping the edge of the iris and pulling it out of the wound and a small pair of *curved iris scissors* for snipping off the desired portion of the iris. Other materials which should also be on hand consist in absorbent cotton, gauze for eye pad, roller or cataract bandage, solution of atropine sulphate 1 per cent., cocaine 4 per cent., bowl of warm normal salt solution or boracic acid solution and small jar of bichloride ointment 1–3000. If the iridectomy is performed for acute glaucoma under a general anæsthetic, a solution of eserine sulphate 1–2 of 1 per cent. or pilocarpine 1 per cent. will be used instead of atropine. The strictest aseptic precautions are to be observed in all operations on the iris.

### CATARACT

A cataract is any opacity occurring either in the lens substance or in its capsule. Thus a cataract may be partial when limited to some small part of the lens or complete when it involves the entire lens.

*Senile Cataract.*—Senile cataract is the most common form of cataract. It usually appears after 50 years of age. The exact cause of cataract is at present unknown.

*Symptoms.*—The first symptom noted is gradual diminution in the acuteness of vision. Some cataracts in elderly people require years for maturing (full development) while others advance rapidly. There are no inflammatory signs and the eyes externally appear practically normal. Indeed, unless the pupil is dilated with a cocaine 4 per cent. solution, it is sometimes difficult to actually see a cataractous lens (grayish or whitish condition of the lens) without throwing a beam of light into the eye with the ophthalmoscope.

*Preparation of Patient for Cataract Operation.*—The eye should be flushed with an antiseptic solution such as boric acid, followed by the instillations of argyrol 25 per cent. three times daily for 2 or 3 days previous to the operation. The night before the eye is cleansed with sterile water or boric acid solution, and an ointment of bichloride of mercury 1–3000 applied as per the request of the surgeon. The eye is

then bandaged lightly for protection. A cataract operation is performed with the patient lying quietly in bed, flat on his back, and in a good light. As soon as the preparatory bandage has been removed the eye is again cleansed or flushed with a sterile salt solution, and thoroughly cocainized by the use of a sterilized 4 per cent. cocaine solution, one drop in the eye every two or three minutes for three or four doses. The head should rest on a moderately hard pillow. During the operation no noise or sudden movements are to be allowed in the room or in fact anything which might distract the patient or perhaps stimulate some sudden unexpected movement of the eye and perhaps spoil the entire operation.

*Cataract Extraction Operation.*—As mentioned above, the patient is wheeled into the operating room lying comfortably in bed, the bandage removed, eye cleaned, and thoroughly cocainized. The operator stands behind the patient's head, inserts an eye stop speculum to keep the lids apart, steadies the eye globe with a pair of fixation forceps, and with a cataract knife punctures the cornea from one side to the other. By cutting upwards a complete corneal flap is made of one-half of the cornea. A bit of iris is then pulled out with delicate curved iris forceps and cut off with small curved iris scissors. The anterior lens capsule is next incised with a cystotome, and the cataractous lens delivered (pressed out) by pressing gently against the eye globe with the broad handle of most any two instruments at hand until the lens is forcibly expressed. A drop of atropine sulphate 1 per cent. is finally dropped into the eye, and both eyes bandaged with a special cataract bandage.

*Post-Operative Care of Cataract Cases.*—The patient is usually kept in a darkened room for from 5 to 9 days. Dressings consist in daily removing the bandage, cleansing the eye when necessary with warm sterile salt solution, instilling one drop of a 1 per cent. atropine sulphate solution, applying a bit of sterile vaseline or bichloride ointment 1-3000 to the lower lid and rebandaging. The patient should be kept quietly in bed. Attacks of coughing and vomiting should be prevented if possible. Cataract dressings are performed usually with the room somewhat darkened. Severe and sudden pain indicates as a rule that some accident has happened to the eye following the operation and the surgeon should be promptly notified of its occurrence.

*Glasses and Vision after Cataract Operation.*—As a rule if there is good seeing quality in the eye before operation excellent vision is secured by the removal of the opaque lens. With a cataract glass, vision is in some instances astonishingly good, and the patient once more given the enjoyment of being in touch with the world about him. A patient is never too old to have a cataract removed.

## JUVENILE CATARACT

In infancy and childhood, cataracts are occasionally congenital. In children with soft cataracts, or in fact in any young individuals under 20 or 30 years of age, the lens is not extracted as in senile cataract but is merely punctured by a so-called *discission or needling operation*. This operation consists in introducing a fine needlepoint into the lens from in front and stirring up the lens itself to promote absorption of opaque lens substance. After a number of needling operations, the lens gradually becomes clear.

*Preparation for a Discission Operation.*—In very young children a general anæsthetic is required. In young adults local anæsthesia under 4 per cent. cocaine is sufficient. The pupil is usually dilated with atropine for this operation. The materials required are a small bottle of cocaine 4 per cent., atropine sulphate 1 per cent., eye speculum, fixation forceps, knife needle and small hand lens. Discission needles are sterilized by dipping them for an instant in hot water and then into alcohol. Hard boiling will spoil the fine cutting edge of discission needles.